Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Disodium Iminodiacetic Acid (DSIDA) Unit
Monsanto Company, Louisiana
Luling, St. Charles Parish, Louisiana
Agency Interest Number: 1096
Activity Number: PER20030001
Draft Permit 2557-V1

I. APPLICANT:

Company:
Monsanto Company
P.O. Box 174
Luling, LA 70070

Facility:
Disodium Iminodiacetic Acid (DSIDA) Unit
12501 River Road, Luling, Louisiana 70070
Between LA Hwy 18 (River Road) and U.S. Hwy 90 in St. Charles Parish, Louisiana
Approximate UTM coordinates are 755.8 kilometers East and 3313.0 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

Monsanto Company produces a variety of products at its Luling Facility with the major product being glyphosate, an active ingredient in Roundup®. Manufacturing units include: Disodium Iminodiacetate (DSIDA), Phosphorous Trichloride (PCl_3), Glyphosate Intermediate (GI), Glyphosate, Formulation and Packaging, Cyanuric Acid (CYA), and Chlorinated Cyanuric Acid (ACL). The Luling Plant also manufactured Acetaminophen until the year 2004 when its production was permanently shutdown.

Several Part 70 permits addressing portions of the facility have already been issued. These include:

Permit #	Units or Sources	Date Issued
2557-V0	DSIDA Unit	8/18/1998
2596-V1	PCl_3 Unit	10/26/1999
2574-V3	GI Unit	11/26/2001
2517-V5	Glyphosate Plant	2/11/2002
2533-V3	CYA & ACL Units	07/31/2006
2567-V3	Steam Plant and Supporting Units	10/5/2005

There are also three Part 70 permit renewal applications which have been submitted to the Louisiana Department of Environmental Quality (LDEQ) that are still undergoing the permit review process. These include:

Permit #	Units or Sources
2596-V2	PCl3 Unit
2517-V6	Glyphosate Plant
2574-V4	GI Unit

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

Monsanto Company submitted a permit application and Emission Inventory Questionnaire (EIQ) received on February 3, 2003 requesting a Part 70 Permit Renewal / Modification. Additional information dated May 6, 2005; July 7, 2006; July 21, 2006; July 26, 2006; August 4, 2006 and August 14, 2006 was also received.

A notice requesting public comment on the proposed permit was published in The *Advocate*, Baton Rouge, Louisiana, on MONTH XX, 200X; and *The St. Charles Herald-Guide*, St. Charles, Louisiana, on MONTH XX, 200X. The public notice was sent to persons included in the Office of Environmental Services Public Notice Mailing List on MONTH XX, 2006. The proposed permit was also submitted to US EPA Region VI. All comments will be considered prior to the final permit decision.

Project description

At the Monsanto Company – Luling Plant DSIDA (Disodium Iminodiacetic Acid) Unit, there is only a one reaction step process which is a catalytic dehydrogenation of diethanolamine. This produces the disodium salt of iminodiacetic acid. Caustic, diethanolamine and catalyst are charged into several reactor trains, heated and reacted under pressure until the reaction is complete. The reaction mass is then cooled and filtered to remove and recycle the catalyst. The product is then piped to the glyphosate intermediate unit in the Luling Plant. The reactor off gas which is a hydrogen stream with trace amounts of diethanolamine, is controlled by a vent condenser and a flare prior to being vented to the atmosphere.

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In this permit Monsanto requested to include the following changes:

- Remove the following emission points (E.P.) as they were never installed: E.P. 12-98 Hydrogen Flare No. 12; E.P. 15-98 DSIDA Shift Tank No. 7; E.P. 16-98 DSIDA Shift Tank No. 8; E.P. 33-96 Diethanolamine Storage Tank No. 3; Tank 168 NaOH Storage Tank No. 3.
- Incorporate the name changes of the following tanks: E.P. 38-96 Diethanolamine Storage Tank No. 4 renamed to Diethanolamine Barge Tank No. 1; Tank 105 NaOH Storage Tank No. 4 renamed to NaOH Barge Tank No. 1; Tank 125 NaOH Storage Tank No. 5 renamed to NaOH Barge Tank No. 2.
- Incorporate Case-by-Case Insignificant Activity dated July 17, 2003 regarding modifying the configuration of the reactor spray tanks.
- Incorporate Case-by-Case Insignificant Activity dated November 21, 2005 regarding the addition of two Lump Dump Tanks.
- Incorporate a Letter of No Objection dated March 18, 2005 regarding production increases of up to 33% per train via increased reactant feed rates.
- Incorporate "as-built" configuration for Wash Collection Tank (Tank No. 827) which was previously included in the permit expansion project for the permit issued in 1998, but was not included in the permit through an oversight.

A technical review of the working draft of the proposed permit was submitted to the facility representatives and the LDEQ Surveillance Division. All remarks received during the technical review have been addressed and are included in the record that is available for public review.

Permitted Air Emissions

Estimated changes in permitted emissions from the DSIDA Unit in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	0.12	0.11	-0.01
SO_2	0.12	0.01	-0.11
NO_X	13.32	12.21	-1.11
CO	0.96	0.88	-0.08
VOC	1.38	1.19	-0.19
Diethanolamine*	1.15	1.15	-
DSIDA	0.08	0.006	-0.074
Other VOC	0.15	0.033	-0.117

* Chapter 51 regulated TAPs.

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Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the proposed permit.

Prevention of Significant Deterioration Applicability (PSD) and Non-attainment New Source Review (NNSR)

This application was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations and National Emission Standards for Hazardous Air Pollutants (NESHAP). New Source Performance Standards (NSPS), Non-attainment New Source Review (NNSR) and Prevention of Significant Deterioration (PSD) do not apply.

MACT requirements

The DSIDA Unit is subject to the Maximum Achievable Control Technology (MACT) standards of 40 CFR 63 Subpart FFFF. The requirements that are applicable to each source in the application are detailed in the regulatory applicability tables.

Air Modeling Analysis

Louisiana Toxic Air Pollutant (LTAP) dispersion modeling is performed for the applicable LTAP compounds with emissions above the Minimum Emission Rate. The screening modeling results predict the maximum ground level concentrations of toxic air pollutants are below the Ambient Air Standards (AAS).

Impact on air quality from the emissions of the proposed units will be below the National Ambient Air Quality Standards (NAAQS) and the Louisiana Ambient Air Standards (AAS) beyond industrial property.

General Condition XVII Activities

N/A

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

IV. Permit Shields

Not applicable.

V. Periodic Monitoring

All periodic monitoring is conducted in accordance with state and federal regulations. See the Specific Requirements Section of the proposed permit renewal / modification for monitoring requirements.

VI. Applicability and Exemptions of Selected Subject Items

See permit application.

VII. Streamlined Requirements

None

VIII. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status - Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Disulfide (H_2S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that

emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit - Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥10 tons per year of any toxic air pollutant; ≥25 tons of total toxic air pollutants; and ≥100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.